

## *Brachycaulos* (*Rosaceæ*) a new genus from India

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**Summary :** A new monospecific genus, *Brachycaulos* Dixit & Panigrahi (family *Rosaceæ*, tribe *Potentilleæ*), from Sikkim (India), is described ; it is based on *B. simplicifolius* Dixit & Panigrahi and is allied to *Chamærhodos* Bunge, from which it is distinguished in having numerous short branches compactly arranged and simple leaves with ciliate stipules, amongst other characters of diagnostic value.

**Résumé :** Description d'un nouveau genre monospécifique de *Rosaceæ*, tribu *Potentilleæ* : *Brachycaulos* Dixit & Panigrahi, du Sikkim (Inde) ; il est basé sur *B. simplicifolius* Dixit & Panigrahi et affine de *Chamærhodos* Bunge dont il se distingue, entre autres caractères, par son port en coussinet et ses feuilles simples à stipules ciliées.

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During our revisionary studies on the family *Rosaceæ*, we came across an interesting collection from Gaoring in Sikkim (India), collected by W. W. SMITH on 31 July 1910, comprising three plants mounted on one sheet (CAL). It was identified by SMITH himself as *Potentilla microphylla* D. Don var. *commutata*. A critical study of these plants shows that they possess rosette leaves with stipules adnate to petioles, flowers terminal, perigynous, bisexual, actinomorphic, apocarpous carpels with deciduous styles, one-seeded achenes borne on a flat receptacle and free from it. We, therefore, ascribe it to the family *Rosaceæ* Juss., tribe *Potentilleæ*.

BUNGE (*in* LEDEBOUR, 1829) segregated *Sibbaldia erecta* L. (1753) as the type species of a distinct genus, *Chamærhodos* Bunge which is accredited with 11 species, all characterised by erect herbaceous stems bearing two or more multisect leaves with linear lobes and with a range which extends from Siberia, Central Asia to North China, Jammu and Kashmir and North America (AIRY SHAW, 1973). HOWEVER, TORREY & GRAY (1840), LEDEBOUR (1844), HOOKER (1878), RYDBERG (1908) and JUZEPCHUK (1941) segregate *Chamærhodos* Bunge from the other genera of tribe *Potentilleæ* by the "absence of bracteoles".

The specimen *Smith 3993* shares with *Chamærhodos* Bunge, the "absence of bracteoles", but differs from it in having simple leaves and in several other characters of diagnostic value as keyed below. We, therefore, consider that *Smith 3993* (CAL) must represent a new genus, named here as *Brachycaulos* (*Brachy* = short ; *caulos* = stem) and distinguish it from the other five genera of the tribe *Potentilleæ* as follows :

1. Receptacle much enlarged and becoming fleshy after anthesis, usually readily separated from the inner surface of the hypanthium, red in colour.
  2. Inflorescence terminal, corymbiform; flowers white or pink; bracteoles longer than sepals, entire; achenes sunken in pits or on surface of torus which falls off as a whole (except in *F. moschata* Duch.)..... 1. *Fragaria* L.
  - 2'. Inflorescence axillary, solitary; flowers yellow; bracteoles shorter than sepals, 3-5-toothed at apex; achenes fall off from the persistent torus..  
..... 2. *Duchesnea* Smith
- 1'. Receptacle not enlarged after anthesis, dry or sometimes woolly and becoming spongy, not separating from the inner surface of the hypanthium, brownish-black in colour.
  3. Bracteoles present.
    4. Generally small herbs, usually petals little exceeding the sepals or much smaller; stamens 4, 5 or 10 per flower; achenes 4-30..... 3. *Sibbaldia* L.
    - 4'. Generally shrubby or suffruticose herbs, usually petals much larger than sepals, stamens 20 or more per flower (except *P. pentandra* Torrey & Gray), achenes 10-80..... 4. *Potentilla* L.
  - 3'. Bracteoles absent.
    5. Entire plant glandular hairy, leaves dissected into narrow linear lobes, calyx campanulate; petals obovate, white or pink; styles basal (5-)10 or more; achenes 5, 10 or more; receptacle villous..... 5. *Chamærhodos* Bunge
    - 5'. Whole plant glabrous except the margins of stipules, the latter short ciliated; leaves simple, calyx flat; petals lanceolate, dark-purple; styles terminal, 2; achenes 2; receptacle glabrous.....  
..... 6. *Brachycaulos* Dixit & Panigrahi

**BRACHYCAULOS** Dixit & Panigrahi, *gen. nov.*

*Herba pumila, compacta; rami numerosi, breves, foliosi, omnino glabri stipularum marginibus exceptis. Stipulae ad marginem breviter ciliatae, petiolo omnino adnatae et membranaceae. Folia simplicia, margine integra, parva. Flores terminales solitarii, parvi, brevi-pedicellati, hypanthium planum, bracteoli nulli. Sepala 5. Petala 5, lanceolata, basi angustata et in ungue extensa, atropurpurea. Carpella 2, styli terminales. Achenia 2, laevia. Receptaculum planum, glabrumque.*

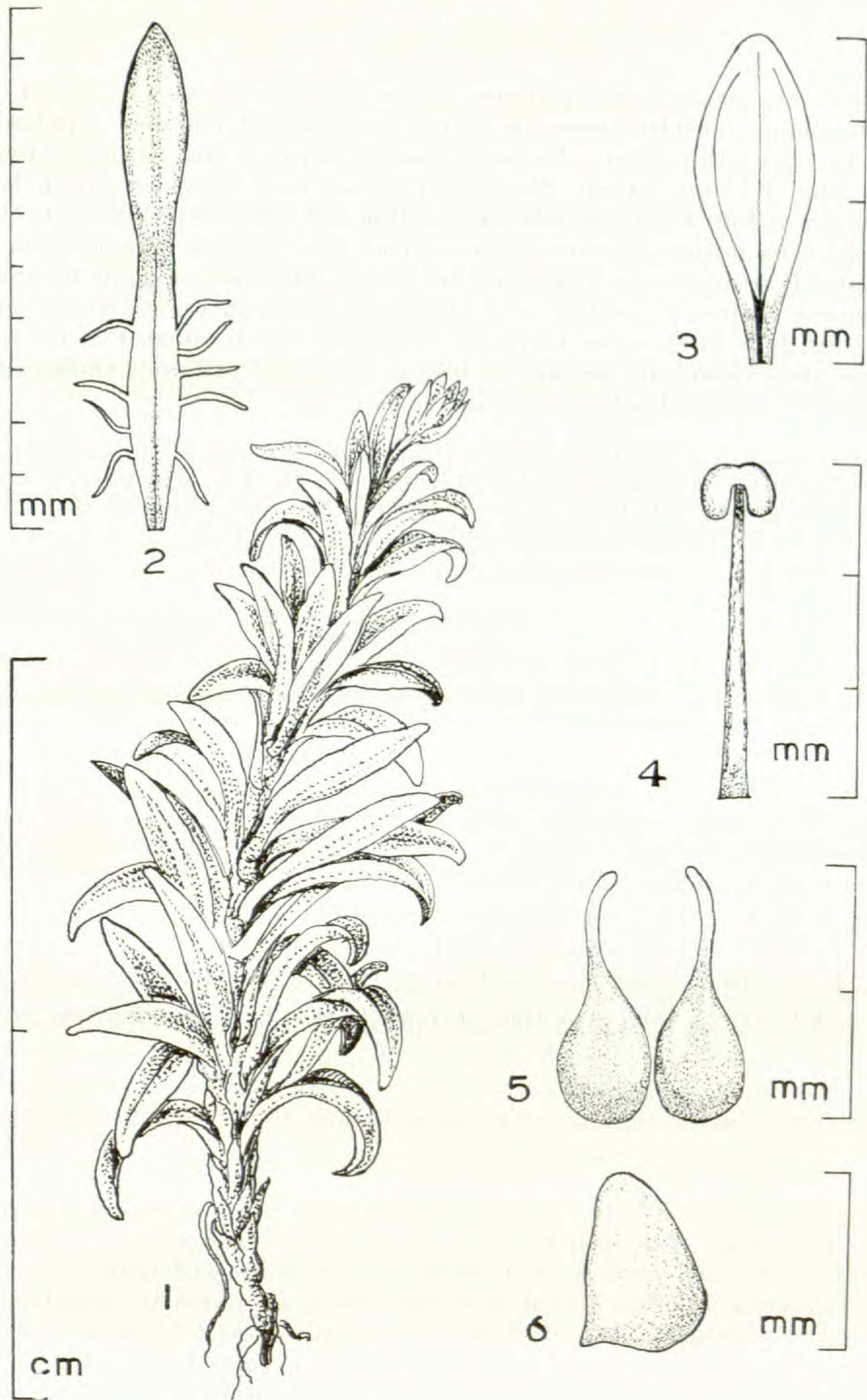
TYPE-SPECIES : *Brachycaulos simplicifolius* Dixit & Panigrahi.

**Brachycaulos simplicifolius** Dixit & Panigrahi, *sp. nov.*

*Herba perennis, caespitosa, globularis, 2-5 cm alta, imbricatim stipularum reliquis vestita. Folia oblonga vel lanceolata, apice acuta plerumque subobtusata, 3-6 mm longa, 1-1.5 mm lata. Flores bisexuales, 8-10 mm diametro, pedicellis 4-5 mm longis. Sepala oblonga, obtusa, integra. Petala calycem parum superantia, apice obtusa, integra, 3-nervia. Stamina 5, sepalis opposita, filamenta filiformia, complanata; antherae ovoides. Styli ovarium aequantes, stigma inconspicuum.*

TYPUS : *Smith 3993*, India Sikkim, Gaoring, 4575 m, 31.7.1910 (holo-, CAL!). — Plate 1.

*Herbs dwarf, tufted, compact, globular, all parts glabrous except the margin of the stipules, 2-5 cm high, divaricately branched; branches many, closely compressed forming a solid mass, imbricately clothed with brownish to dark-brownish stipular sheaths. Leaves simple, oblong or lanceolate, apex acute, sometimes slightly blunt, margin entire, flat, veins and veinlets obscure, 3-6 mm long, 1-1.5 mm broad. Stipules thin, membranous,*



Pl. 1. — *Brachycaulos simplicifolius* Dixit & Panigrahi : 1, habit ; 2, a leaf with ciliated stipe ; 3, a petal showing the 3 veins ; 4, a stamen ; 5, two pistils with terminal styles ; 6, an achene.

fully adnate to the petiole, surface glabrous, margin short ciliated, brown-coloured. *Flowers* solitary, terminal,  $\pm$  hidden among the leaves, bisexual, 8-10 mm diam. ; pedicel 4-5 mm long, slender ; hypanthium flat. *Bracteoles* absent. *Sepals* 5, free, oblong, obtuse, entire, 3.5-4 mm long, 1-1.5 mm broad. *Petals* 5, 4-4.5 mm long, 1.5-2 mm broad, lanceolate, base narrowed and drawn into a claw, apex obtuse and entire, little exceeding the sepals, dark-purple, veins distinct, blackened, three-veined (one mid-vein running up to the apex and two laterals arising from a little above the base). *Stamens* 5, opposite to sepals, 3 mm long ; filaments flattened ; anthers oval, ditheous, yellowish brown, deeply-notched at the base, slightly so at the apex, basifixed. *Carpels* 2, closely situated on the receptacle, 2 mm long ; style 1 mm long, terminal, as long as the ovary, uniformly thickened ; stigma inconspicuous. *Achenes* black, 1 mm long, smooth.

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